

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): An encryption processing apparatus configured to perform a data encryption process, said encryption processing apparatus comprising:

a control section configured to set a mixed encryption processing sequence by dividing an original encryption processing sequence into a plurality of groups composed of one or more encryption processing units, each group including a triple DES encryption process, and by mixing processing sequences of encryption processing units of the plurality of groups with each other so that performance of at least one process from one of the groups is performed at a time between processes from another one of the groups and under a condition in which the processing sequence of the encryption processing units within each set group is fixed; and

an encryption processing section configured to perform an encryption process in accordance with the mixed encryption processing sequence set by said control section,

~~wherein the original encryption processing sequence to be mixed is an encryption processing sequence including a triple DES encryption process, and~~

wherein said control section is configured to set a dummy single-DES process as a dummy encryption process that is unnecessary for the original encryption processing sequence in at least one of said groups of divisions, and set the number of dummy single-DES processes to be a multiple of 3 ~~corresponding to the triple DES encryption process.~~

Claim 2 (Previously Presented): An encryption processing apparatus according to Claim 1, wherein said control section is configured to set a dummy encryption processing unit that performs the dummy encryption process, and set one mixed encryption processing

sequence by mixing the encryption processing units of a plurality of groups containing the dummy encryption processing unit.

Claim 3 (Previously Presented): An encryption processing apparatus according to Claim 1, wherein said control section is configured to determine a group of sequences, which can be performed independently of each other, within the original encryption processing sequence to be divided in a process of division into a plurality of groups composed of one or more encryption processing units, and perform a process for setting a group of divisions in which the sequence which can be performed independently is a unit.

Claim 4 (Previously Presented): An encryption processing apparatus according to Claim 1, wherein said encryption processing unit is a single-DES encryption process, and wherein said control section is configured to set one mixed encryption processing sequence by dividing the original encryption processing sequence containing one or more single-DES encryption processes into a plurality of groups composed of one or more single-DES encryption processes and by mixing the single-DES encryption processing units contained in each group of divisions by mutual replacement of the single-DES encryption processing unit of each set group under the condition in which the processing sequence within each set group is fixed.

Claim 5 (Previously Presented): An encryption processing apparatus according to Claim 1, wherein said control section is configured to perform a process for dividing the encryption processing sequence into a plurality of groups composed of one or more encryption processing units by using a single-DES encryption process which forms the triple-DES encryption process as an encryption processing unit.

Claim 6 (Previously Presented): An encryption processing apparatus according to Claim 1, wherein the original encryption processing sequence to be mixed is an encryption processing sequence including a random-number generation process, and

said control section is configured to form a random-number generation process as a process including a conversion process by three single-DES processes, and sets the triple-DES encryption process as a random-number generation process in one of the groups of divisions.

Claim 7 (Canceled).

Claim 8 (Previously Presented): An encryption processing apparatus according to Claim 1, wherein said encryption processing apparatus has a memory for storing processing results of the encryption processing units which form the mixed encryption processing sequence set by said control section, and

said control section is configured to store the processing results in said memory in such a manner as to be capable of identifying which encryption processing unit the processing results are obtained from.

Claim 9 (Currently Amended): An encryption processing apparatus configured to perform a data encryption process, said encryption processing apparatus comprising:

a control section configured to set a mixed encryption processing sequence by dividing the original encryption processing sequence, which includes a triple DES encryption process, into one or more encryption processing units, by adding a dummy encryption processing unit that performs a dummy single-DES process as a dummy encryption process

that is unnecessary for the original encryption processing sequence and that corresponds to said encryption processing unit, and by performing a mixing of processing sequences of the original encryption processing units included in the original encryption processing sequence and said dummy encryption processing units so that performance of at least one process from the original encryption processing sequence is performed at a time between processes from the dummy encryption process; and

an encryption processing section configured to perform an encryption process in accordance with the mixed encryption processing sequence set by said control section,

~~wherein the original encryption processing sequence to be mixed is an encryption processing sequence including a triple-DES encryption process, and~~

wherein said control section is configured to set the number of dummy single-DES processes to a multiple of 3 ~~corresponding to the triple-DES encryption process.~~

Claim 10 (Previously Presented): An encryption processing apparatus according to Claim 9, wherein the encryption processing unit contained in said original encryption processing sequence is a single-DES encryption process, and

said control section is configured to set said dummy encryption processing unit as a single-DES encryption process.

Claim 11 (Currently Amended): An encryption processing method for performing a data encryption process, said encryption processing method comprising:

dividing an original encryption processing sequence into a plurality of groups composed of one or more encryption processing units, each group including a triple DES encryption process;

setting a mixed encryption processing sequence by mixing processing sequences of encryption processing units of the plurality of groups with each other so that performance of at least one process from one of the groups is performed at a time between processes from another one of the groups and under a condition in which the processing sequence of the encryption processing units, set in said dividing, within each group is fixed; and

performing an encryption process in accordance with the mixed encryption processing sequence set in said setting,

~~wherein the original encryption processing sequence to be mixed is an encryption processing sequence including a triple-DES encryption process, and~~

wherein said dividing includes setting a dummy single-DES process as a dummy encryption process that is unnecessary for the original encryption processing sequence in at least one of said groups, and setting the number of single-DES processes of dummies to be set to a multiple of 3 ~~corresponding to the triple-DES encryption process.~~

Claim 12 (Previously Presented): An encryption processing method according to Claim 11, further comprising setting a dummy encryption processing unit that performs the dummy encryption process, and

setting one mixed encryption processing sequence by mixing the encryption processing units of a plurality of groups containing said dummy encryption processing units.

Claim 13 (Previously Presented): An encryption processing method according to Claim 11, wherein said dividing determines a group of sequences, which can be performed independently of each other, within the original encryption processing sequence to be divided in a process of division into a plurality of groups composed of one or more encryption

processing units, and performs a process for setting a group of divisions in which the sequence which can be performed independently is a unit.

Claim 14 (Previously Presented): An encryption processing method according to Claim 11, wherein said encryption processing unit is a single-DES encryption process,

said dividing divides the original encryption processing sequence containing one or more single-DES encryption processes into a plurality of groups composed of one or more single-DES encryption processes, and

said setting sets one mixed encryption processing sequence by mixing the single-DES encryption processing units contained in each group of divisions by mutual replacement of the single-DES encryption processing units of each set group under the condition in which the processing sequence within each set group is fixed.

Claim 15 (Previously Presented): An encryption processing method according to Claim 11, wherein

said dividing performs a process for dividing the encryption processing sequence into a plurality of groups composed of one or more encryption processing units with a single-DES encryption process which forms the triple-DES encryption process being an encryption processing unit.

Claim 16 (Previously Presented): An encryption processing method according to Claim 11, wherein the original encryption processing sequence to be mixed is an encryption processing sequence including a random-number generation process, and

said encryption processing method further comprises forming a random-number generation process as a process including a conversion process by three single-DES processes

and setting the triple-DES encryption process as a random-number generation process in one of the groups of divisions.

Claim 17 (Canceled).

Claim 18 (Previously Presented): An encryption processing method according to Claim 11, further comprising:

storing processing results in a memory for storing processing results of the encryption processing units which form the mixed encryption processing sequence in such a manner as to be capable of identifying which encryption processing unit the processing results are obtained from.

Claim 19 (Currently Amended): An encryption processing method for performing a data encryption process, said encryption processing method comprising:

dividing an original encryption processing sequence, which includes a triple DES encryption process, into one or more encryption processing units;

setting a mixed encryption processing sequence by adding [[a]] dummy encryption processing ~~unit~~ units that ~~performs~~ perform [[a]] dummy-single DES ~~process~~ processes as [[a]] dummy encryption ~~process~~ processes that [[is]] are unnecessary for the original processing sequence and that ~~corresponds~~ correspond to said encryption processing unit and by mixing processing sequences of the original encryption processing units included in the original encryption processing sequence and said dummy encryption processing units so that performance of at least one process from the original encryption processing sequence is performed between dummy single-DES processes; and

performing an encryption process in accordance with said mixed encryption processing sequence,

~~wherein the original encryption processing sequence to be mixed is an encryption processing sequence including a triple-DES encryption process, and~~

wherein said dividing includes setting the number of dummy single-DES processes to a multiple of 3 ~~corresponding to the triple-DES encryption process.~~

Claim 20 (Previously Presented): An encryption processing method according to Claim 19, wherein the encryption processing unit contained in said original encryption processing sequence is a single-DES encryption process, and

said setting sets said dummy encryption processing unit as a single-DES encryption process.

Claim 21 (Currently Amended): A computer readable storage medium encoded with computer executable instructions, which when executed by a computer, cause the computer to perform a method comprising:

dividing an original encryption processing sequence into a plurality of groups composed of one or more encryption processing units, each group including a triple-DES encryption process;

setting a mixed encryption processing sequence by mixing processing sequences of encryption processing units of the plurality of groups with each other so that performance of at least one process from one of the groups is performed at a time between processes from another one of the groups and under a condition in which the processing sequence of the encryption processing units, set in said dividing, within each group is fixed; and



performing an encryption process in accordance with the mixed encryption processing sequence set in said setting,

~~wherein the original encryption processing sequence to be mixed is an encryption processing sequence including a triple-DES encryption process, and~~

wherein said dividing includes setting a dummy single-DES process as a dummy encryption process that is unnecessary for the original encryption processing sequence in at least one of said groups, and setting the number of single-DES processes of dummies to be set to a multiple of 3 ~~corresponding to the triple-DES encryption process.~~

Claim 22 (Currently Amended): A computer readable storage medium encoded with computer executable instructions, which when executed by a computer, cause the computer to perform a method comprising:

dividing an original encryption processing sequence, which includes a triple DES encryption process, into one or more encryption processing units;

setting a mixed encryption processing sequence by adding ~~[[a]]~~ dummy encryption processing ~~unit~~ units that ~~performs~~ perform ~~[[a]]~~ dummy-single DES ~~process~~ processes as ~~[[a]]~~ dummy encryption ~~process~~ processes that ~~[[is]]~~ are unnecessary for the original processing sequence and that ~~corresponds~~ correspond to said encryption processing unit and by mixing processing sequences of the original encryption processing units included in the original encryption processing sequence and said dummy encryption processing units so that performance of at least one process from the original encryption processing sequence is performed at a time between dummy single-DES processes; and

performing an encryption process in accordance with said mixed encryption processing sequence,

~~wherein the original encryption processing sequence to be mixed is an encryption processing sequence including a triple-DES encryption process, and~~

wherein said dividing includes setting the number of dummy single-DES processes to a multiple of 3 ~~corresponding to the triple-DES encryption process.~~